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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,562	02/04/2004	Kishio Yokouchi	0 2EK-105595	3730

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EXAMINER

RAHLL, JERRY T

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/771,562

Applicant(s)

YOKOUCHI ET AL.

Examiner

Jerry T. Rahl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5, 7-9, 11, 14-16, 18-20 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5, 7-9, 11, 14-16, 18-20 and 22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Upon further review of the prior art, the current claims of the application are rejected.

This includes new a rejection of subject matter previously presented and, therefore, is **NON-FINAL**.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 3-4, 7-9, 11, 14-15, 18-20, 22 and 24-28 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application 2003/0235362 to Sugama et al.

4. Regarding Claims 3, 7-9 and 11, Sugama et al. describes an optical switch having a single optical input (110), an active deflecting element (130) comprising an electro-optic material and at least one pair of electrodes (130, 131) responsive to a control system to deflect the signal in one of a plurality of directions, a common waveguide (140) to accept a deflected optical signal and a plurality of four optical outputs (161-164), each corresponding to one of the plurality of directions and having passive optics (151-154, 161-164) to accept the deflected signal and where the deflection of the signal provides switching of the optical signal to one of the outputs (see Figures 1-2B and Paragraphs 0035-0062).

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5. Regarding Claims 14, 18-20 and 22, Sugama et al. further describes a collimating element (120) to collimate the optical signal and a focusing element (151-154) the optical outputs.

6. Regarding Claims 3-4 and 14-15, Sugama et al. further describes the electrodes as a pair of electrodes having a similar shape and where the optical signal passes between the pair (see Paragraph 0055).

7. Regarding Claims 7-8 and 18-19, Sugama et al. further describes the common waveguide having a face with a plurality of facets, where each facet is adjacent to one of the outputs and perpendicular to one of the directions (see Figure 3).

8. Regarding Claims 8 and 19, Sugama et al. does not describe the optical signal as significantly refracted when exiting the common waveguide (see Paragraphs 0058-0059).

9. Regarding Claims 9 and 20, Sugama et al. further describes the passive optics including a lens (151-154) and an output waveguide (161-164), where the passive optics have an optical axis perpendicular to the waveguide output and the input of the output waveguide (see Figure 3).

10. Regarding Claims 11 and 22, Sugama et al. further describes the switch as a hybrid switch where the material of the signal input, common waveguide and optical outputs is different from the elector-optical material of the active deflecting element (see Paragraphs 0052 and 0057-0061).

11. Regarding Claims 24-28, while Sugama et al. does not specifically describe a silicon substrate, it does describe the substrate formed from quartz. Quartz is a silicon material.

Therefore, Sugama et al. inherently describes the substrate as a silicon substrate.

Claim Rejections - 35 USC § 103

12. Claims 5, 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugama et al. as applied to claims 3 and 14 above.

13. Regarding Claims 5 and 16, Sugama et al. does not specifically describe two pair of electrodes. However, Sugama et al. does describe a pair of electrodes sandwiching the optical path, as discussed above (see Paragraph 0055). Sugama et al. also describes multiple electrode formations (see Paragraph 0054). At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the sandwiching electrode structure along with the multiple electrode formation. The motivation for combining the described electrode embodiments would have been to combine the control features of the sandwiching structure with the deflection control of the multiple electrode formations.

14. Regarding Claim 23, Sugama et al. does not specifically describe the electrodes formed of gold. It would have been obvious to one of ordinary skill in the art at the time of invention to use gold for the electrodes, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. The motivation for using gold to form the electrodes would have been to use gold's well-known conductive and manufacturing properties.

Conclusion

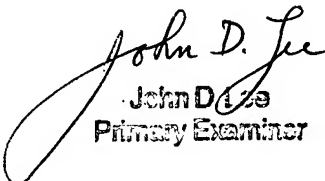
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T. Rahll whose telephone number is (571) 272-2356. The examiner can normally be reached on M-Th (8:30-5:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jerry T Rahll


John D. Lee
Primary Examiner